



THOMAS G. NEWMAN,
EDITOR.

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Fifty-Two Dividends from the investment of one dollar is just what every subscriber of the AMERICAN BEE JOURNAL receives. Can any better interest be found for the investment of one hundred cents? If so, where?

Do not Ship honey to any one without first looking up their commercial standing, unless you know it without looking it up. There are many who are now mourning the fact that they did not do so.

Mr. L. J. Diehl, Butler, Ind., reports that he has increased his bees from 71 colonies last spring to 273 colonies this fall, and obtained a ton of comb honey from them; he allowed natural swarming.

G. M. Doolittle, Borodino, N. Y., in a kind letter to the editor, expresses these sentiments:

I think the AMERICAN BEE JOURNAL grows better each year, but I realize that your care and management is required to secure a continuance of this—so please to take care of yourself as much as possible, for we can spare none of the good qualities from the best bee-paper in the world.

Honey-Producing Plants increase in a locality in proportion to the increase of bees, which cause a fuller fertilization of the flowers—therefore, the one who keeps bees in a locality is a public benefactor, and the bees are not only not a nuisance, but are a blessing to any community.

We are Sorry to learn that Mr. L. C. Root, of Mohawk, N. Y., is obliged to move to a location near salt water, on account of his health; and hence desires to sell his excellent location for honey-production near Mohawk.

Preserve your Papers for reference. If you have no **HINDER** we will mail you one for 75 cents, or you can have one **FREE** if you will send us 4 new yearly subscriptions for the BEE JOURNAL.

Concerning the Canadian lawsuit, Mr. Holtermann remarked:

How far we in Canada have supported the Union I know not; probably not as we should.

We replied, on page 739, that there were only two members of the Union in Canada, and that the person sued was not a member of the Union; then, to show that Canada had not considered itself apart of the "National Bee-Keepers' Union," and therefore not entitled to its protection, we innocently remarked that

The "only bee-paper in Canada" has never thought enough of the Union to mention "its aims and objects;" neither have its proprietors ever offered to become members.

In stating these facts we had not an unkind thought or feeling either towards Canadians or their paper, but the latter, in its last issue, takes umbrage at it, and remarks thus:

It was nothing more or less than an opportunity for venting the ill-feelings of the editor towards this Journal.

Well! That is sublime! In the first place we had no "ill-feelings" towards our Canadian cotemporary; and, secondly, we had no desire to "vent" what we did not possess, whether an "opportunity" was presented or not!

Our neighbor will do well not to indulge in any such thoughts or feelings. It does not in any measure stand in the way of the AMERICAN BEE JOURNAL; our list of subscribers in Canada is larger to-day than ever before, and while we heartily wish the Canadian paper all the prosperity it desires, we must protest against its being jealous of the prosperity of the oldest bee-paper in America. As well might a child be envious at the popularity of its father, or jealous of the good fortune of its mother!

The Triple Convention at Albany, N. Y., will be held on Jan. 11-13, instead of a week later, as at first stated. This will be a union convention of the New York State, the Eastern New York, and the New Jersey and Eastern associations. Every one who can do so, should attend this very important meeting.

More Premiums.—Mr. L. J. Diehl, of Butler, Ind., offers a colony of Italian bees as a present to the person sending to this office the largest club of subscribers for 1887. The subscriptions may be sent in at any time before the first of May at our regular club rates, and additions made as desired, but it must be stated that you are working for that premium, so that we can keep account of the subscriptions.

As a premium to the second largest club we will send my mail, postpaid, a copy of the "Farm Account Book," worth \$3. The postage is 20 cents.

New Subscribers are coming in rapidly—for this our thanks are tendered to the friends of the AMERICAN BEE JOURNAL, who are exerting their influence in its behalf. We should thrille our list at the present low rate of one dollar a year. We hope every one of our present subscribers will send at least one additional subscriber with the renewal for 1887.

The Ontario Bee-Keepers' Association will hold its annual convention at Toronto, on Jan. 5 and 6, when the commissioners will report their trip to Europe. Speaking of the important matters to come before the meeting, the Canadian Bee Journal advises the formation of a "Union" for Canada. It says:

Another thing which late occurrences have made necessary, will be the discussion of the advisability of taking active steps towards the establishment of a "Bee-Keepers' Union," or of making the protection of bee-keeping interests a branch of the association. It is to be hoped that the meeting may be held, and some decisive steps taken to put the case of Mr. Harrison in its proper light before the judges, in time to prevent a decision adverse to the best interests of bee-keepers. Let there be a rousing meeting of the whole bee-keeping fraternity, and general good will be the result.

In the same paper, Mr. Allen Pringle says that Canadians must act with "prudence, promptness and energy," and combine to defend the suit. He then adds:

And it is always more prudent for the bee-keeper to mollify and placate an unreasonable or irascible neighbor than to quarrel with him or go to law with him. A "soft answer" and a case of honey will go a great way in turning away the wrath and straightening out the crookedness of a capacious and unreasonable neighbor. Of course I do not know whether Mr. Harrison's attitude towards his neighbor was prudent or otherwise, but I should judge from his letter that he is a reasonable and fair-minded man. However that may be, his case, though personal to himself, has now become of public and general importance to Canadian bee-keepers, and it behooves us to face the issue without any sign of flinching.

History of the United States, published by the New York World.—A copy of this book is on our desk. It contains 320 pages, and is indispensable to every person, as a work of convenient reference. It is illustrated, and the history is brought down to date. This book is offered as a premium with the BEE JOURNAL, and is indeed an elegant—

Premium Worth Having.—The New York World and the AMERICAN BEE JOURNAL (both weekly) will be sent for one year to any address in North America for \$1.00. And in addition **PRESENT** to every such CLUB SUBSCRIBER a "History of the United States," containing 320 pages and 22 fine engravings, bound in leather and gilt.

This "History" will be sent **FREE** by express at the subscriber's expense; or will be mailed for 10 cents extra to any place in the United States or Canada.

It is arranged chronologically by years, from 1492 to 1885. Every event is narrated in the order of its date. These are not confined, as in other works, to political matters, but embrace every branch of human action.

This premium is worth the whole of the money sent for both periodicals, and should induce thousands to subscribe, and thus get two unrivalled weeklies for nothing.

This offer is good only until **Jan. 1, 1887**, hence no time should be lost. Send at once!

We anticipate a largely increased list of subscribers for 1887, as \$1.00 cannot be invested by any bee-keeper that will bring him better returns.



AND

Replies by Prominent Apiarists.

[It is useless to ask for answers to Queries in this Department in less time than one month. They have to wait their turn, be put in type, and sent in about a dozen at a time to each of those who answer them; get them returned, and then find space for them in the JOURNAL. If you are in a "hurry" for replies, do not ask for them to be inserted here.—ED.]

Queen-Traps to Prevent Swarming.

Query, No. 347.—Having plenty of bees, and not desiring any increase, but to obtain the most honey, what would be the result if queen-traps were used to prevent swarming, during the swarming season?—**BUTLER.**

Queen-traps will not prevent swarming, and as a rule would result in loss in the hands of the inexperienced. It would be better to let them swarm and double them up the next spring to hold the numbers back.—**G. M. DOOLITTLE.**

I do not think that it would be profitable to prevent increase in this manner. The bees are apt to become "sulky" when their desires are interfered with in this manner. It is better to control or prevent the desire.—**W. Z. HUTCHINSON.**

Some colonies might be deterred from swarming, but you would find many queens superseded, and swarms would issue with unfertilized queens in spite of your traps.—**J. P. H. BROWN.**

I should like to know, and have been studying somewhat upon it. I think that the Alley queen-trap might, by a little modification, be made a success, but I have as yet made no experiments.—**C. C. MILLER.**

They will not prevent the swarming-fever which so demoralizes bees that they work but little. Unless I could keep the swarming-impulse back, I should prefer a swarm, or else such management as would quell the fever.—**A. J. COOK.**

Queen-traps will not prevent swarming. They will prevent the old queens from going with the first or prime swarms, but after awhile the young queens will begin to hatch, and some of the slender "misses" will slip out through the perforations, and you will have plenty of the meanest kind of swarming. The old queens are sure to perish before the excitement is over.—**G. W. DEMAREE.**

This can be proved only by testing. The remark that "bees do nothing invariably," applies as closely to this question as to any one thing in bee-management. The use of queen-traps for this purpose has not been a success with myself.—**J. E. POND, JR.**

Sometimes the old queen is killed after a few efforts at swarming, and again the young queens will be killed. In the former case there would be more ineffectual swarming, the colony finally having a drone-laying queen. I do not think that the most honey could be obtained by such management.—**G. L. TINKER.**

That would depend upon what sort of a trap you used, and how you used it. It would require pages to tell all that would result from the use of a trap that confines the queen and drones to the hive or trap.—**JAMES HEDDON.**

Getting Bees from a Bee-Tree.

Query, No. 348.—In case a bee-tree may not be cut, can I in any way secure the bees? I think that I could winter them without any honey from the tree.—**S. B. L., Nebr.**

It is often possible to cut out the part containing the bees.—**A. J. COOK.**

Climb the tree, cut out the combs, take out the bees, and transfer them to a hive.—**W. Z. HUTCHINSON.**

Possibly they might be smoked out if smoke could be blown into one hole, leaving another for the bees to come out.—**C. C. MILLER.**

If they are within easy reach you can drive them out, or smoke them out. Otherwise we would advise you to leave them alone.—**DADANT & SON.**

Oh, yes, in many ways, but they are not worth the trouble and expense. You can buy bees cheaper.—**JAMES HEDDON.**

By making a hole at the top of the brood-nest and another at the bottom, you can smoke them out if the day is warm. Put the nozzle of the smoker in the lower hole.—**J. P. H. BROWN.**

They might be driven up and out by smoking them, but I doubt if it would be a paying job. Try and see what you can do, and report.—**J. E. POND, JR.**

Yes. Such colonies will generally cluster about the portion of the tree from which their honey is taken, when they can be hived.—**G. M. DOOLITTLE.**

If you can cut a hole in the tree at the brood-nest you can take out the bees and honey, but if you are not allowed to cut into the tree, you had better let the bees alone.—**H. D. CUTTING.**

The only way would be to climb the tree and cut out the bees. But I should think a whole neck would be worth more to you than the bees. In other words, the bees would not be worth the adventure.—**G. W. DEMAREE.**

I have known men to climb trees and by means of ropes and an ax get out the bees and hive them; but they labored hard enough to earn 2 or 3 colonies in frame hives, besides running a great risk of their lives. There is surely a better way for S. B. L. to get bees.—**G. L. TINKER.**

Colonies with Mixed Bees.

Query, No. 349.—I received 2 Italian queens and introduced them into two hives on Aug. 4, and I now find Italian bees in two other hives besides the two that I gave the queens. How do you account for that?—**J. G. C.**

Perhaps they are stragglers.—**W. Z. HUTCHINSON.**

Bees often get mixed up by getting into the wrong hive.—**H. D. CUTTING.**

Bees frequently go into other hives than their own. This is no new thing.—**A. J. COOK.**

Bees frequently get into wrong hives, particularly when returning from the fields late in the evening.—**J. P. H. BROWN.**

Young bees often get into the wrong hive. That explains your case.—**DADANT & SON.**

It doubtless occurred by the young bees from the Italian colonies entering the wrong hive.—**G. M. DOOLITTLE.**

One way in which it might occur, is that young queens were reared which met Italian drones at some distance, and then part of the young bees would look like pure Italians.—**C. C. MILLER.**

Where the hives stand close together it is not uncommon for the young bees of one hive to enter another, and so become mixed. Otherwise the two other hives have hybrid queens, if all were black bees at the beginning.—**G. L. TINKER.**

You do not explain matters sufficiently to more than make an answer a mere guess. If you mean that you can detect a few Italian bees in two other hives near by the Italianized colonies, it would be plain to me that they got there by mistake. Young bees enter the wrong hives when they have been on the wing, much more frequently than most people are aware of.—**G. W. DEMAREE.**

There is nothing strange at all in this state of things. Bees are constantly interchanging to a greater or less extent, so much so that if I had one-half black and one-half yellow bees originally, I should expect in two or three months to find each hive containing some of both the yellow and the black ones.—**J. E. POND, JR.**

They came from your Italian colonies, and by mistake returned to the colonies where you now see them, and where they were kindly received (being so young and innocent), and where they will remain.—**JAMES HEDDON.**

Do you Want a Farm Account Book? We have a few left, and make you a very tempting offer. It contains 166 pages, is printed on writing paper, ruled and bound, and the price is \$3. We will club it and the Weekly BEE JOURNAL for a year and give you both for \$2. If you want it sent by mail, add 20 cents for postage.

CORRESPONDENCE

Explanatory.—The figures BEFORE the names indicate the number of years that the person has kept bees. Those AFTER, show the number of colonies the writer had in the previous spring and fall, or fall and spring, as the time of the year may require.

This mark \odot indicates that the apiarist is located near the center of the State named; δ north of the center; η south; \oplus east; \ominus west; and this \nearrow northeast; \nwarrow northwest; \searrow southeast; and \swarrow southwest of the center of the State mentioned.

For the American Bee Journal.

The Michigan State Convention.

The Michigan State Bee-Keepers' Association held its 20th annual convention on Dec. 1 and 2, 1886, at Ypsilanti, Mich. The meeting was called to order at 11 a.m. on Dec. 1, with President A. J. Cook in the chair. As the minutes of the last meeting had been widely published, their reading was dispensed with.

The first topic discussed was,

RESTORING FLAVOR OF STALE HONEY.

T. F. Bingham—At the Indianapolis convention this subject was discussed, and some asserted that when honey had been exposed to the air and lost its flavor, it could be brought back to its former excellent state by the application of heat. In proof of this assertion reference was made to the fact that when canned or preserved fruit began to show signs of fermentation or of "spoiling," the good house-wife "heated up" the fruit and then pronounced it "good." I went home to a very nice house-wife and asked for her opinion, and received a very lively answer. It was: "P-o-o-s-h!" It is nothing of the kind; such boiling only causes the stale part of the fruit to permeate the whole mass. The only thing to be done is to throw it away." Honey is a luxury or it is nothing. It cannot compete with cane-sugar as a sweetener. It is the fine flavor and aroma that give honey and maple sugar their value. Honey that is extracted when "green" and ripened by exposure to the air, or honey that has been long exposed to the air, never has the fine flavor of that ripened by the bees, and kept sealed up.

A. I. Root—We once had some maple sugar that had been exposed to the air, and was not quite so nice in consequence. It was "heated up," and although not quite so nice it was greatly improved.

A lady said that when we find fruit slightly spoiled through some imperfection of the can, we skim off the top and seal the rest, when it becomes quite palatable.

A. I. Root—Dr. Miller says that honey that has candied and then been allowed to drain, is very fine when melted.

T. F. Bingham—If the thin honey is skimmed from the top the rest will be greatly improved. The thin honey may be made into vinegar.

HONEY FROM CAPPINGS.

R. L. Taylor—We prefer the honey that drains from the cappings. The reason may be that it is in such small quantities that it becomes more thoroughly evaporated.

T. F. Bingham—Is it the consistency or the aroma, Mr. Taylor, that makes it so interesting in your family?

R. L. Taylor—Both. The flavor is not, perhaps, a natural one, but rather one acquired from a contact with the cappings. It is a pure wax flavor, but one we prefer.

Geo. E. Hilton—There is another point. Honey from cappings is *always* thoroughly ripened; while in a large crop part of it may have been unsealed.

A. I. Root—I agree. I once extracted honey late in order to feed sugar, and the honey thus secured was equal to that drained from cappings.

R. L. Taylor—Without raising the point as to whether honey can be ripened artificially so as to equal that ripened by the bees, I will say that honey ripened and sealed by the bees is superior to that extracted before being sealed.

The discussion here drifted into the subject of

RIPENING HONEY.

A. J. Cook—I believe that honey can be ripened artificially so that it will equal that ripened by the bees. I have placed both kinds before good judges, and they were unable to decide. My brother has a granary that is very warm, and he extracts his honey when thin, puts in some shallow sapsans that have been discarded, and places them in the granary, covering them with muslin to exclude dust and insects. Mr. Rey, of East Saginaw, got some of the honey, and I should like to have him say how it compares with other honey he buys.

John Rey—It is always thick, and of good flavor and color, and is as nice as any honey I get. There is never any scum rises upon it, such as there is on unripe honey.

T. F. Bingham—There, Professor, I think I have the inside track yet, even by one of your own witnesses. Mr. Rey says there is a scum rises upon unripe honey. This scum is the result of fermentation. How can fermentation take place without injuring the honey?

Prof. Cook—I am not in favor of unripe honey. It must be thoroughly ripened. The flavor in honey is given by the flower from which it is gathered, and all that is needed is evaporation, and this is caused by heat, and why there should be any material difference whether this is applied in the hive or outside of it, I am unable to discern. Honey must be ripened, but extract it when you please.

T. F. Bingham—Would you leave your maple syrup exposed to the air, Professor?

Prof. Cook—No. I would evaporate it just as soon as possible, and then seal it up.

R. L. Taylor—Even if honey can be ripened artificially so that it will be equally as good as that ripened by the bees, shall we advise such a course? One bee-keeper in a hundred might do it properly, but what of the other ninety-nine?

Prof. Cook—Then we must educate them, and if they will not be educated then they must suffer the consequences.

Mr. Macpherson—We should consider the cost; perhaps honey can be ripened artificially enough more cheaply so that it will be the better way even though the honey is not quite so good.

T. F. Bingham—Because I have money to-day is no sure sign that I will have any to-morrow. We must look to the future. Where will our market be in ten years unless we furnish only a first-class article? What kind of a market will our children have if we continue to put upon it the poor "stuff" that is honey only in name? Honey is a luxury, and will always remain as such even if sold for one-half the price of cane-sugar. What is it that makes honey and maple sugar luxuries? Is it their fine flavor, their rich aroma, their delicate "bouquet," if you please? Allow these to escape, and what is there left? A very poor quality of sweet of a low power. Honey sealed over and kept at a high, even temperature and covered by bees, improves by age and becomes smooth, rich and oily, the same as bottled wine improves by age. If we expect to hold our market for extracted honey, we must not extract it until it is fully ripened, and it must be kept sealed up from the air. Ten years from now will show that I am correct.

The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

The convention was called to order at 1:30 p.m., by Prof. Cook, who then delivered the

PRESIDENT'S ANNUAL ADDRESS.

In casting about for a subject most appropriate for this annual address of the President of our Association, it has occurred to me that a *resume* of the year's progress, and a statement as to the present outlook for our apicultural pursuit, might be both interesting and profitable, even if not the most profitable theme that could engage our attention.

Let me state as a preface, that it might seem a bold undertaking to give any formal address at all, in the face of the criticisms that have recently deluged us regarding all such exercises in our apian conventions. It would be bold except as I promise at the outset that my address shall be brief. Let me suggest, however, in this connection, that very likely these criticisms may justly be criticised. It would seem that a sharp, terse, concise presentation of any subject by one well fitted to discuss it wisely, would be a most fitting way to intro-

duce any subject before such an association as this. A written essay, properly prepared, is methodical, well digested, thorough, none of which adjectives will apply to many of the crude addresses which one hears at most of our meetings. Indeed, a short, incisive essay serves as a director, and aids to keep debate in line so that we can all gather the best fruits from the discussions. Surely, then, the only valid argument that can be offered against essays is that they may be long, illy arranged, and not well considered before presentation; and so detract from the interest of our meetings.

I do not believe such statements as the above can justly be made of the essays presented before our Association in the past. Should our experience meet with a change, let us not rashly put aside what the usage of all such bodies in the past has proved to be the most valuable auxiliaries in their discussions and deliberations, but the rather appoint a competent committee to decide upon the merit of all essays presented, whose duty it shall be to carefully examine all such essays, and decide as to their merit, and whether they shall be presented before us for our instruction and consideration. Does any one think that our Association would have been so influential and helpful in the past, if we had dispensed with the many interesting and valuable essays that delighted us in all the years of our existence? Such an elimination would have left us Hamlet with the Prince of Denmark omitted. What we desire at these meetings, to attend which costs us no little time and money, is to get the best thought, methods, practice of the wisest of our craft. How few of us have that thorough discipline which enables us to give the best that we have in extempore addresses. Thus, I say, let us continue our essays and prepared addresses, lest we take a step backward, and thus show ourselves unworthy the age and the time.

The past year has been one remarkable in bee-literature. The first volume of Mr. Frank Cheshire's great work truly marks an epoch in the literature of apiculture. It is a masterly work, and shows a wealth of study and research which will make it one of the classics among our scientific treatises. Every live bee-keeper should make it a study, for study he must would he gather all it has to offer.

Quite as startling and phenomenal is the work of our own brother apiarist, James Heddon. His work, "Success in Bee-Culture," however, is quite the opposite of that of Mr. Cheshire. It is wholly, from first to last, practical. Rarely does any work bring such a profusion of rich, practical hints as does this. On every page is some suggestion which commands itself to the wise apiarist. More than this, each word of advice comes with the certificate of "tried and succeeded." What wonder then that we have tried and adopted nearly every plan or practice therein recommended? I would say to any bee-

keeper who has not read "Success in Bee-Culture," to secure a copy at once, and study it thoroughly the coming winter. Nothing will tend more to win success.

Another work, "A Year Among the Bees," may be described as fresh, terse, clear, full of genial kindness, and replete with practical suggestions. This work details the operations in the bee-yard just as they occur through the year, and so is unique among the books of our art. Here, too, we of Michigan feel proud that it is a Michigan man that has given us so excellent a work. I know that Dr. C. C. Miller lives in Illinois, but to say that such a man belongs to any one State is to say that we do not know him at all. We all claim Dr. Miller as our man.

An event of no small importance to bee-keepers, was the sending of a Commission by Ontario or Canada to represent the Dominion in London, at the Colonial Exhibition. Such an exhibit, and the wide distribution of American honey—for though this Commission has talked Canada! Canada!! still they are a part of America—will do much to build up a foreign demand and market not only for Canada, but for the United States as well. We owe Mr. D. A. Jones and the whole party a vote of thanks.

We also have a racy little work from England: "Simmins' Non-Swarming System." If unfinished combs next to the entrance of a hive are a sure security against swarming, it is surely an interesting fact which can be turned to good use. Mr. Simmins' idea of crowding bees into the sections, reminds me of much that has been said by two of our own distinguished bee-keepers—Messrs. Heddon and Hutchinson. Simmins' method of direct introduction of queens is not new in America. This work I am sure will interest and benefit the American bee-keepers who may read it.

Very few inventions have caused more remarks of late than Mr. Heddon's new hive. Of late prices are so low—though prices run no lower in apiculture than in agriculture and other kindred pursuits—that any scheme, method, or invention that will lessen labor will surely attract attention and win patrons. This is what the New Heddon hive and system promised to do; and many of us who have put it to the practical test have found that it did not promise in vain. We are proud that it is one of our own bee-keepers that has conferred this boon upon the bee-keeping public. There is no doubt but that the reversing system has come to stay. Many even now have adopted it never to return to the former methods.

Another invention—the solar wax-extractor—has grown rapidly into public favor the past year. It is a decided improvement, even upon the Swiss extractor. It is convenient, safe, inexpensive, and is sure to give the very nicest wax, and that with no trouble or expense.

There are four very important questions which should receive our

most careful consideration at this time. They are as follows:

First, the price of honey, and how can it be marketed? I said to one of our large honey-producers a few days ago—one who before last year always secured 15 cents per pound for all his extracted honey, and sold last year for 8 cents, and this year for 7—are you not discouraged at these prices? "No, indeed," says he, "it pays as well as any other farm product." Even if this is so, we may well take counsel from our wisest producers, and consider whether there are any measures practicable which may be adopted to stay the rapid decline in prices, and so stimulate the markets that they may come seeking our products. I hope that we may thoroughly discuss this subject of "honey market," that each may go home more hopeful, more able to solve the pending difficulty.

Second, how can we produce the finest comb honey the most cheaply? While extracted honey goes begging in some of our markets, comb honey finds a ready sale at remunerative rates. It is, then, a matter of great moment to learn how to get the most of this beautiful comb honey in the easiest way. It seems to me with the Heddon hive we have reached the paradise of the comb honey producer. Surely this is a matter that we may well discuss in the hope of gaining still greater light.

Third, the question of honey-plants is one that we may do well to discuss. How often we find our harvest cut off just at its dawn. The flowers, white clover or basswood forsooth, seem to be pouring out the nectar in profusion when, presto, all is changed, the bees hang idly about the hive, storing ceases, and the apiarist's profits are reduced to the minimum. Now, is it not possible to secure plants that will ensure a continuous flow despite rain or drouth? I am sure I have seen just such results twice, once through raspberry, and again through Alsike clover bloom. In both cases white clover was abundant, but, for some subtle influence known only to Nature's Great Chemist, refused her sweets, while these other plants yielded abundantly.

It seems to me that here is a most fruitful field for experimentation. Happy the man who discovers and makes known how, by judicious planting, we may ensure a fine honey product each season!

Fourth: The last subject I wish to suggest is that of improved breeds of bees. We all know that the common black bee has its merits. The same is true of each of the other races—Carniolan, Syrian, Cyprian and Italian. To say that these races cannot be so combined as to produce a bee that shall combine all the merits of all our present races, with the demerits eliminated, is to show a total ignorance of all the laws of breeding. The same skill and care that gave us our noble short-horns and Herefords, will give us the ideal bee. To secure this result we must look after both the drones and queens, and must be quick to note changes for the better

or worse, that we may lay hold of the one and stamp out the other. I well know that they are great obstacles in the way of success, but that they are insurmountable I do not believe; and here, as everywhere, success is gauged by the effort it costs.

But I promised to be brief; and though there is much else that I would like to discuss, I forbear, and leave these and other matters for your consideration.

Following the President's address was the following essay by Mr. T. F. Bingham, entitled,

WHO SHALL KEEP BEES?

Just as if, in this free country, any one should not keep bees if he wishes to! But it is not in this sense that the question was designed to be discussed; but who could, to the best advantage, keep bees? No one could question the right of him who pleases to keep bees, so to do; subject, of course, to the rights of others just as in the case of poultry or other stock. No one can presume to injure the peace and health of any community in the pursuit of his own private interests, no matter what they might be.

With the thousands of domestic fowls in this country, and the almost limitless number of eggs produced by them, the United States imports from France, and other densely populated countries, millions of dozens of eggs annually, yet the question as to who shall keep hens does not occur as a question of right—it is simply a question of pleasure or inclination; and whoever wishes may try to make a success and an income in the keeping of fowls and in the production of eggs. In this generation (and I shall not pretend to say that it is in any sense better or worse than those which have preceded it) the question of who should do this or that, or embark in this or that pursuit, hinges entirely upon circumstances, the first of which is the wish to do something. Bees to do well must have a good and convenient pasture. Bees to be easily cared for must occupy a convenient hive. Bees to be judiciously managed must be managed by an interested bee-keeper, who will use ordinary studiousness to become a thorough bee-master. In bee-keeping there are no mysteries, more than in raising fowls or potatoes. The same reasonable methods which would lead to success in one would result in success in the others. Bee-keepers, like others, are so covetous of the honors of their pursuit that they do not long keep their "light under a bushel;" hence, there are no valuable secrets. Bee-culture is an open book; he who will may read.

In reviewing the rise and fall in prices of various commodities, honey does not prove to be an exception to general rules. Whether the present price is the result of overproduction or of a general decline in values of other commodities, no real evidence exists. One fact, however, is present, namely, that the producing of honey at present on a small scale pays the

producer of a few hundred pounds a much better dividend than would the raising of a like value of pigs and fowls. At present all farm crops, as also all manufactured goods, represent little more than the labor and material expenses required to produce them; yet, at this stage, when wheat rules at a point said by the farmers of Michigan to be below the cost of production, the farmers of Michigan have planted more wheat this fall than in any previous season within the last five years. The only fact to be adduced from this is the simple one that the farmers have more labor than money, and are willing, therefore, to give more of their labor for the money that wheat will bring than in previous years.

Bee-keepers may also, in common with others, find it advisable to produce more honey even at a less price than previously. Ample and convenient pastures and comparative isolation point to the farm as the home of the honey-bee, and to the farmer as the future successful bee-keeper. When the farmers finally realize—as realize they surely will—the value of an apiary in connection with their pigs and poultry and cows, the greatest production of honey, the best location for the apiary, and the most successful bee-keepers will have been found.

President Cook—We ought to have Mr. Heddon here to take issue with Mr. Bingham about farmers keeping bees. Perhaps Mr. Hutchinson will answer for him.

W. Z. Hutchinson—Actions speak louder than words; I expect to drop farming entirely for bee-keeping.

R. L. Taylor—I think that some men might succeed in raising potatoes that would never succeed in producing honey.

Dr. Higbie—Only the man who makes a specialty of one thing can hope for the highest success.

The next topic discussed was that of

HANDLING BEES.

Prof. Cook—There are a few principles that should be understood. In simply walking among the hives, unless the bees are disturbed, there is little danger of stings. Quick motions sometimes incite the bees to an attack. Frightening bees takes away their disposition to sting. We have been told repeatedly that smoke causes bees to fill themselves with honey and then they are good natured. This may be true, but it is also true that simply fright will have the same effect. We raise the cover to a hive and puff in some smoke, then take off the cover and lay it upon the ground. The bees upon the cover are peaceable. They have had no opportunity to fill up.

T. F. Bingham—A wire-cloth hat arouses the ire of bees. They fly against it and think somebody has hit them. Confidence on the part of the operator is one of the greatest things in preventing stings. A horse obeys a man who is his master, but let a nervous woman try to manage him, then look out! Bees may sting a

passer-by when they are first taken from the cellar, but they soon become accustomed to the presence of the bee-keeper. When a swarm is hanging upon a limb, smoking the bees will cause them to cluster compactly, the same as sprinkling them with water. It will also take away their disposition to sting. If the apiary is surrounded with trees set thickly in rows, the bees will pass over the trees in their flight and not molest any one near the trees; by taking this precaution bees may be kept near a highway with but little danger of stings to those passing by. I prefer Lombard poplars, as they are tall, of quick growth, and the bees do not alight upon them.

A. I. Root—I wish to particularly emphasize the importance of not allowing the bees to gain access to honey outside the hives during a time of scarcity; as it will surely lead to stinging.

Prof. Cook—Those who have to handle bees when robbers are troublesome, will find great relief in using a bee-tent.

VARIETIES OF BEES.

A. D. D. Wood—I have tried the Syrians, but they are too fierce. Smoke does no good. I had to use chloroform. They fill the cells so full, and cap the honey so thinly that it gives the honey a dark appearance. I have discarded them for Italians.

W. Z. Hutchinson—I have tried the Carniolans in a small way, but I do not find them superior to the blacks; in fact, if obliged to choose a pure variety I should choose the blacks.

Dr. Ashley—I had one colony of Carniolans, and it swarmed only once. They are gentle, but can be roused, and when roused they are roused. Their combs are more yellow or cream-colored than that made by other bees.

R. L. Taylor—Italians always sting more while being hived than at any other time. I would not depend so much upon color in distinguishing varieties of bees as upon other characteristics. Italians remain very quietly upon the combs, are difficult to shake off, and do not "rush things" so early in the spring as do some other varieties.

A. D. D. Wood—I had several varieties of bees in the cellar one winter. When taken out in the spring the Italians had scarcely any brood; next came the blacks, while the "Eastern bees" had large quantities. I have had bees that were very beautiful and very gentle, but almost worthless as honey-gatherers.

Prof. Cook—I have seen such bees. You can almost knock the hive over, and they will forgive right on the spot; but are of no use as honey-gatherers. No one variety has all the good qualities. We must try and unite the different varieties, and then eliminate the bad qualities. I think we owe Mr. Heddon a vote of thanks for the hint he has given us in this direction.

A. I. Root—In the spring my Carniolans were the most promising

colony. They began breeding first, and became the strongest colony, but furnished no surplus honey.

BEES FOR BUSINESS.

Mr. Fellows—Which would be the better way, if one wished to Italianize his apiary, to rear queens or buy them?

Prof. Cook—I was talking this matter over with Mr. Poppleton a few years ago, and his decision was that so long as we had so good queen-breeders it was better to buy queens.

A. I. Root—It is a question with me whether it is advisable to Italianize, or Syrianize or Carniolanize an apiary. I have been thinking for some time that it would not be profitable for a honey-producer to breed for a pure race. Many desire hybrids, and are satisfied with nothing else.

R. L. Taylor—I am very much pleased to hear Mr. Root speak as he does. The time has come when we must breed "bees for business," regardless of race, color, or markings.

Prof. Cook—No race has all the best qualities. We must select the best, cross them, and then weed out the undesirable qualities.

T. F. Bingham—When I stated at the Cleveland convention in 1872, that the black bee had some superior qualities, it raised a perfect "sizzle." But time tries all things, and merit will eventually win, and at last the merit of the black bee is recognized.

COMB FOUNDATION.

A. I. Root—I should like to know whether any one present has had any experience in using two pieces of foundation in each section?

Mr. Macpherson—Mr. Corneil has used them. The pieces are triangular in shape.

John Rey—I use one piece, but fasten it at both top and bottom.

A. D. D. Wood—I have tried this. It is a failure with two-pound sections; as the foundation sags too much. Separators must be used with one-pound sections, or there will be trouble. The foundation must be warm when it is put in, then it will not stretch so much.

Mr. Matthews—How shall we avoid having imperfect sections?

R. L. Taylor—Do not put on the sections until honey is coming in rapidly, and crowd the bees. This course is not advisable, however, as it is better to have some imperfect sections than to curtail the quantity of honey.

Prof. Cook—How far is it advisable to use foundation?

R. L. Taylor—I think it is profitable to use it in sections, also in the brood-nest, unless it is at the time of hiving swarms. I think newly-hived swarms had better build their own combs in the brood-apartment, unless it may be that it is so late in the season that the bees would not fill the brood-nest without help.

Mr. Fellows—I tried taking away a few combs when the fall honey-flow commenced, and put empty frames in their places, but the bees built drone-comb and filled it with honey.

R. L. Taylor—That was not following the Hutchinson plan. Mr. H. insists upon a small brood-nest, and that the empty frames be used only when hiving swarms. You gave empty frames in the fall to an established colony; at this time the bees are reducing the size of their brood-nest, and if any comb is built it is filled with honey, consequently drone-comb is built.

A. I. Root—Will the use of drone foundation in the sections prevent the building of drone-comb below? If so, is there any objection to its use?

Mr. Fellows—I have used it in the sections, and the honey was fine, but it was black bees that did the work.

W. Z. Hutchinson—The hiving of one or two swarms upon empty frames does but little towards settling the question. A large number of swarms should be hived; hiving them alternately upon empty frames and upon foundation; weighing everything carefully, and continuing this year after year. This I have done, and I know that it does not pay me, with my management, to use foundation in the brood-apartment when hiving swarms.

Prof. Cook—I have tried Mr. Hutchinson's plan in a small way, and I must say that I am delighted with it.

W. Z. Hutchinson—What is the best way to avoid the trouble arising from the drone-comb built as the result of having old queens?

R. L. Taylor—Allow the comb to remain until another spring, then remove and extract the honey, melt up the comb, and put a sheet of foundation in its place.

W. Z. Hutchinson—That is the best I can do; but it is an expensive method. It can be avoided by superseding queens, but I should look upon the remedy as worse than the trouble.

R. L. Taylor—Queens do the best work the first two seasons, and if they are to be superseded, I suppose it is best to do it during the swarming time.

Geo. E. Hilton—I have taken away the old queen at swarming time, and allowed a young queen to run in the hive in her place.

The convention adjourned until 7:30 p.m.

EVENING SESSION.

President Cook called the meeting to order at 8 p.m., and Mr. R. L. Taylor read the following essay, entitled,

WHAT I KNOW OF FOUL BROOD.

Some one has said that foul brood is a subject of discussion in every bee keepers' convention, and perhaps it would not be well that this convention should be an exception. I chose this subject, too, because I am greatly interested in it myself just now, and with the hope, first, that I may get from others some information that will be of assistance to me; and, secondly, that I may be able to give some hints that will be of value to others—not, indeed, to those who already have experience with the disease, but to those who, not having

had any particular knowledge of it, shall, in the near future, receive a visit from this insidious enemy. There are, undoubtedly, some such here. This so-called foul brood made its appearance among my bees, so far as I know, during the present season. I first discovered its foot-prints by here and there a dead larva in 2 colonies last May, but from obtuseness or incredulosity, or from the imperfections of published descriptions of it, or from a different type of the disease, I did not recognize it.

Mr. Muth says: "Foul brood can be rooted out completely and without an extra amount of trouble, provided you are sufficiently impressed with its dangerous and insidious character, and are prepared to meet it promptly on its first appearance." But to be that, one must know it at first sight.

What are the characteristics by which it may be certainly recognized? We are told that the dead larvæ are brown or coffee-colored, but brown is of several different shades; and what is coffee-colored? Is it that of the raw coffee bean, or of the parched bean, or of the pure decoction with milk in it? At the best, I think these descriptions are too indefinite. I should describe the color of the dead larvæ as being, at first, just like that of coffee, as you find it on your breakfast table, with a moderate quantity of milk in it ready for consumption. The larvæ gradually become darker until they are almost as black as tar, and about of the consistency of a piece of dry, dark brood-comb. At this stage they lie somewhat spread out upon the lower side of the cells, are drawn back a little from the mouth of the cells, and have the appearance, at first glance, of being turned up a little, somewhat like the toe of a boot. At this stage, in a good colony, with dark combs for breeding, as seen in the autumn, an inexperienced person would scarcely discover the dead larvæ at all.

Secondly: The consistency of the dead larvæ is homogeneous, there being no watery matter that may be drawn off, leaving more solid parts, at first, and for a considerable time the substance of the larvæ is ropy, tenacious, and elastic, so that if one end of a splinter is inserted in the matter and withdrawn, the matter will draw out in a thread like thick honey, but it is so much more elastic than honey that when the thread breaks, which it will do when drawn to the length of half an inch, there is no danger of any of it dropping, but the one part will spring back into the cell, and the other part to the splinter. You will, of course, understand that the dead larvæ retain their shape more or less perfectly for a considerable length of time on account of their outer membrane remaining apparently intact.

Thirdly: Much has been said about the disagreeable character of the odor arising from a colony affected with the disease; it is true that it is sufficiently so, but not to a greater extent than many other odors. It is much like that of a poor quality of glue in a warming-pot in preparation for use. The disease would ordinarily run sev-

eral weeks in a colony before one would be likely to discover it from the odor on opening the hive. Though I have had 2 colonies so diseased as to be reduced to the strength of weak nuclei, yet no odor could be discovered without opening the hive or putting the nose close to the entrance; so I do not depend upon the sense of smelling in discovering the disease.

Fourthly: Generally more or less of the cells containing dead brood have cappings, each of which has an opening near its centre, and these openings vary in size from one that might have been made with a common pin up to one-half as large as the capping itself, or even larger; as if the bees, discovering the death of the larvæ while capping the cells, at once interrupt their useless work. Sometimes many dead larvæ will be found in the cells on which the work of capping has not even been begun, and, on the other hand, sometimes a combful of dead larvæ will hardly exhibit a cell with an incomplete capping. Cells containing dead brood and having cappings which are entire, may generally be detected by the sunken appearance of the cappings.

As I have said, last May I discovered the effects of the disease in 2 colonies. I could not believe that it was the work of foul brood, but determined to keep watch, and did so until I saw them increase in strength rapidly, one of them casting a swarm, and, the busy season coming on, I paid no more attention to them until early in July, when the white clover season closed. I had 3,000 sections partly filled with honey, and in order to have them finished, I selected 27 colonies to do the work, and got honey to feed them for this purpose, by extracting two or three of the heaviest combs from each colony in my apiary. Everything progressed finely for several days, until one of my employes called my attention to a colony that seemed not prosperous. On examination I decided the case to be foul brood, and found that several other colonies had the disease also, and that from 10 to 20 combs from diseased colonies had been extracted, the combs distributed through the apiary, and the honey fed to the 27 colonies before mentioned.

As the readiest method I proceeded to attempt a cure by the starvation plan, and treated 50 colonies or more very successfully so far as yet appears. I do not by any means cherish the hope that there will be no more cases. I shall undoubtedly have to continue the struggle awhile yet, but I have no doubt of final success.

In closing, let me remark as follows: 1. That the rapidity with which the disease will destroy a colony depends as much upon the number of combs in the hive as upon the virulence of the disease. A colony on 8 combs, attacked by the disease in the spring, will very likely be reduced at the close of the season to a pint or quart of bees; while one on 20 combs will perhaps cast a swarm, and still come through a good colony. 2. Honey from infected colonies certainly carries the disease. Of the 27

colonies fed as above, 26 had the disease well developed when I stopped breeding. 3. I venture the opinion that the disease is conveyed only incidentally, except by infected honey, and by the matter of diseased brood. I did what I would not advise any one to do, and that was to put a diseased colony back into its own hive without disinfecting the hive, of course giving the bees, after a course of fasting, sound honey, and the disease did not reappear though a considerable amount of brood was reared.

Finally, hiving swarms from diseased colonies on foundation or empty frames seems to be all that is necessary to free them entirely from the disease.

Dr. A. B. Mason—I have cured foul brood by the starvation plan, and by using salicylic acid. I prefer the former plan.

P. M. Puhl—It can be cured, there is no doubt about that, but the trouble is to keep it cured; especially is this the case where there is much timber.

T. F. Bingham—I would not try to save the brood, as young bees getting into the wrong hive will spread the disease.

Dr. Mason—I should save the brood.

Mr. Smith—Bee-keepers should be careful about keeping combs containing foul brood, as when it dries, the spores are liable to float in the air, and be scattered to colonies of bees.

Prof. Cook—I think this would be possible.

Next came the following essay by Geo. E. Hilton, on the

HONEY-FLORA OF NORTHERN MICH.

If one takes the time to observe and the trouble to enumerate them, he will be astonished at the almost endless variety of honey-producing plants within this State. It would require a skilled botanist to name them all. The All-wise Father has provided nearly all trees and plants with either honey or pollen to attract the insect world. He spreads a continual feast for the bee that the important object of perfect fertilization may be more certainly attained. The bee that slips from flower to flower, rollicking in the golden dust among the newborn anthers, playing hide-and-seek in the opening corollas, is performing a work of untold value in the wise economy of nature. The honey secreted by the blossoms is for the purpose of inviting cross-fertilization, and to prevent in-and-in breeding.

If no insect is there to utilize the drop of nectar, it is evaporated and scattered to the four winds of heaven. No one is richer for the ungathered sweets, and no one is the poorer whose fields are searched by the tireless little worker whose instincts lead it to garner the evanescent riches which of a truth take to themselves wings and fly away. From the "trailing arbutus" that peeps out of the snow on some hillside, to the last frost flower in autumn, there is almost a continual succession of honey-producing plants, whose wealth of nectar

ought to be utilized as one of the sure resources of this grand State. California may occasionally astonish us by her magnificent honey crop, but in Michigan where "the early and latter rains" are not only promised but sent, we are always confident of a reasonable surplus.

The pastures and roadsides are dotted with white clover which yields the finest honey in the world. The rivers and lakes are generally skirted with linden timber, and our uplands are interspersed with the same—one of the best honey-producing trees of the world, yielding largely a nectar that is prized for its beautiful amber color and aromatic flavor. Every fence-corner and neglected field is planted by the hand of Nature, as though she were trying in some way to counteract man's shiftlessness by making the earth bring forth abundantly some of the good things of life.

It is of the greatest importance to the bee-keeper to know just when this succession of bloom occurs, that he may have his bees in the best possible condition to secure the nectar. So far as my observation and knowledge extend, I will briefly enumerate them: About the first pollen comes from willow and soft maple, usually about the middle of April, varying with the season. In the early part of May comes the hard or sugar maple, and this tree deserves more than a passing notice. It produces both honey and pollen in large quantities, and I sometimes feel that were our bees in the same condition they are at the approach of the linden flow, we would receive nearly the same results.

Fortunately my bees last spring were strong early, and many of them stored considerable surplus from this source, and it being followed closely by the raspberry and blackberry bloom (with which this country abounds), I secured at least a thousand pounds of surplus previous to the opening of white clover, from my 60 colonies. White clover opens from June 1 to June 15, and in my 10 years of bee-keeping it has never failed to give a fair surplus. The flow was short the past season, on account of the drouth, but my bees being strong I took about 2,500 pounds from this source. There is no interval between clover and linden in this latitude; in wet seasons the clover often continues until after the linden ceases to bloom. The linden opens from July 4 to July 20, according to the season, but cannot be depended upon in this latitude. It is the most sensitive and more dependent on atmospheric conditions than any bloom in this latitude. We usually get two or three days, however, and once I remember of ten days when it secreted honey during its bloom. I find it does better along rivers and lake shores than on the uplands.

After the above flowers we have an interval in the honey-flow until buckwheat, fireweed, goldenrod, asters and boneset come into bloom, with which, aside from buckwheat, this country naturally abounds. They usually afford us some surplus, but the greater part goes to the brood-nest

for winter stores; in fact I have never had to resort to feeding sugar for winter stores, and I hope I never shall.

There are many more annuals and shrubs that go to make up the honey-flora of northern Michigan, and we have some disadvantages that our Southern bee-keepers do not have; but taking all in all, I think the northern half of the State is much better adapted to the pursuit of bee-keeping, and that the honey is of better quality than in the southern half.

Dr. Ashley—I had 300 pounds of honey that was bitter. It has been pronounced boneset. I should be pleased to know what it is.

Dr. Mason—I have had honey from boneset, and it is bitter.

W. Z. Hutchinson—So have I.

Prof. Cook—The secretion from the bark-house is gathered in some dry seasons, and this is bitter.

R. L. Taylor—I am surprised to hear Mr. Hilton speak of basswood honey as amber colored.

Prof. Cook—I have had samples of basswood honey that were amber colored.

T. F. Bingham—Oh, Professor, that probably came from standing in those discarded sap-pans in the granary. (Laughter.) Basswood honey usually has a greenish tinge.

Dr. Mason—When bees are gathering honey from one kind of plant they may also be gathering a little from something else, which will slightly change the flavor or color.

The convention then adjourned until 8:30 a.m. of the next day.

Concluded next week.

For the American Bee Journal.

Opinions on Legislation for Bee-Keepers.

W. H. OSBORNE.

On page 742, Dr. Miller asks for the views of bee-keepers, and especially for the opinions of those belonging to the legal fraternity, on the subject of "legislation for bee-keepers." The Doctor seems to raise two questions—"the desirability and the feasibility of such legislation as will give a bee-keeper an exclusive right to keep bees in a certain territory."

The question of "desirability" is one that I think it would be difficult for us to decide with unbiased judgment. There are persons in this village who have kept bees longer than I have, and if by reason of priority I must surrender the business to them, such legislation might appear more desirable to them than to me. In other words, our own opinions as to the desirability of such legislation would naturally depend upon whether it would or would not inure to our benefit.

The question of "feasibility" perhaps we can discuss with less prejudice, and although my views may not entirely coincide with those of the Doctor, still I do not advance them for the purpose of entering into a

controversy, but that we may consider the subject in its various phases. There is no doubt that much good might result to the specialist from such legislation as would give them absolute control over certain territory; but in what way could this be accomplished? I can see no way except it be by license, and I do not think that in this State the Supreme Court would hold a license law constitutional that had for its object the restriction of such a lawful industry as bee-keeping. Liquor-selling is the only business (?) which is restrained in that manner, and that is only done under the guise of a tax, which it is claimed gives no right to sell, and certainly we do not want to bring our noble pursuit down to a level with that nefarious traffic.

But if such legislation could be obtained, would not the effect be to foster monopolies? The specialist could keep his hundreds of colonies, and supply the market, while the poor man would be deprived of keeping his 2 or 3 colonies to produce enough honey for his own family use.

There is competition in all kinds of business, and by reason of such competition two will sometimes fail where one would succeed; but we never think of asking legislatures to decide which of the two shall yield the entire business to the other. Another difficulty I see is this: We do not pasture our bees entirely on our own land, and why should the legislature say that Mr. Smith may pasture his bees on the land of Mr. Jones, to the exclusion of Mr. Brown, or even of Mr. Jones himself? While I say nothing about the desirability of such legislation, I must say that as I view the matter, it does not seem feasible. I am a firm believer in the theory of the "survival of the fittest," and I believe that the bee-keeper who reads the bee-papers and keeps up with the progress of the times, can defy competition from those who are trying to carry on the business as their fathers and their grandfathers did before them.

Chardon, O.

For the American Bee Journal.

The Cappings over Honey.

C. P. DADANT.

On page 762 Mr. Hutchinson asks me to give my proofs for saying that honey-cappings are impervious; and I hasten to respond, as it is always a pleasure for me to discuss a subject with him.

We have in our extracting room—a cold room in winter and rather warm in summer—a few cases of honey in sections that have been there ever since the fall of 1884. This comb honey has been "sweating" like honey often does, and the bottom of the cases is covered with granulated honey.

Upon examination of the sections, the greater part of the cells are found to be capped, and the honey under the cappings is liquid, but thick, and

evidently in good condition. But in nearly every section a few cells are to be found, the cappings of which, although apparently sound, are bulged out, and show by their transparency that the cell is partly empty. On closer examination these cappings are found to be burst outward; and the honey that has not "sweated" out of them, as well as that contained in a few cells that have cracked by variation of temperature, or by handling, is as thoroughly granulated as that at the bottom of the case. Now why is the honey in the sound, sealed cells liquid, while all the other is granulated? Is it not evident that the one is sheltered from the action of the air, while the other is not?

Whether all honey-cappings exclude the air is perhaps doubtful, but that the bees "aim at compact coverings for their honey, while the sealing of the brood is porous (Cheshire)," makes no doubt for me. Evidently even this view is debatable, else Mr. Hutchinson would not be so eager for a discussion, and I shall be glad to see it fully ventilated, by him and others.

Now, as to the nature of cappings: If the reader will take a parcel of clean, white honey-cappings on the end of a knife and place it near a light—not too close—but near enough to melt it, he will have a pretty good idea of the nature of them. That ordinary honey-cappings are not absolutely free of foreign matter is easily comprehended, since the traveling of the bees over them, in the hive, is sufficient to alter their color in a few days. In addition, the yellow coloring pigment so well known to bee-keepers (and so little explained), and the impurities of the atmosphere, undoubtedly more or less contaminate the wax during the manipulation of this soft and plastic material.

Practically speaking, however, honey-cappings are pure wax, and if unmixed with propolis, cast skins or cocoons, from the cell walls, in extracting, will give little or no residue, except damaged beeswax.

I know that it is a popular opinion that the pale, clean, grainy looking residue often obtained in rendering wax over water is pollen. It looks like pollen-grains, but is pure wax, and any one who has tried the solar wax-extractor side by side with the water process, will testify to the fact that this so-called pollen residue is entirely absent in sun-rendered beeswax. On this subject I cannot refrain from recalling the experience of Mrs. Chad-dock, who, after melting her wax 4 or 5 times over, and finding this residue more plentiful every time, came to the conclusion that it was all a sham, and that her beeswax was no beeswax at all.

Hamilton, O. Ills.

Sample Copies of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office, or we will send them all to the agent.

Local Convention Directory.

1887. Time and place of Meeting.
- Jan. 11-13.—N. Y. State, E. N. Y., &c., at Albany, N. Y.
Jno. Aspinwall, Sec., Barrytown, N. Y.
- Jan. 12.—Cortland Union, at Cortland, N. Y.
D. F. Shattuck, Sec., Homer, N. Y.
- Jan. 12.—Nebraska State, at Lincoln, Nebr.
H. N. Patterson, Sec., Humboldt, Nebr.
- Jan. 13.—Vermont, at Burlington, Vt.
R. H. Holmes, Sec., Shoreham, Vt.
- Jan. 13.—Sheboygan County, at Hingham, Wis.
Mattie B. Thomas, Sec., Sheboygan Falls, Wis.
- Jan. 18.—N. W. Ills. & S. W. Wis., at Rockford, Ills.
J. Stewart, Sec., Rock City, Ills.
- Jan. 19, 20.—N. E. Ohio, N. Pa., &c., at Andover, O.
M. E. Mason, Sec., Andover, O.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Bees Ready for Winter, etc.—I. J. Glass, Sharpsburg, © Ills., on Dec. 3, 1886, writes:

I had just got my bees housed in the cellar when the cold wave reached us, and we have been having some zero weather since, as cold as 10° below. I have 92 colonies in winter quarters, all in good condition. The temperature ranges between 45° and 50°. I do not care how warm my cellar becomes so I can keep the temperature from falling below 45°. I am fully convinced that cold is the cause of bee-diarrhea. I had about 4,000 pounds of surplus honey this year, 1,800 pounds of comb honey, all of which is sold. I have only one barrel of extracted honey on hand yet. I disposed of the greater part in my home market.

Ten Years of Bee-Keeping.—L. D. Ormsby, Pierpont, © O., says:

I began the season with 77 colonies, and obtained 4,400 pounds of honey. This is the poorest season for bees that I have ever experienced. Next year will make ten years of bee-keeping for me, and I have been a faithful follower of your valuable BEE JOURNAL. If you would like a ten year report from one of your readers, I will send it to you next year.

[Yes; send in the report, and let us see what you have done in ten years.—ED.]

Bee-Keeping in Central Texas.—E. P. Massey, Waco, © Tex., writes:

Bee-keeping in central Texas has about ceased to be pleasant or profitable. For the last two seasons I have not had 100 pounds of surplus from 50 to 60 colonies, although they began the winter with plenty, and came out with plenty of stores and bees. We have no field crop in this country that affords any honey, except cotton, and that does not yield

it every season, and never very much. For several years previous to 1884 we got a good deal of honey from thistle and horse-mint, but these have about failed, and I cannot tell what will next turn up that will benefit us.

"'Tis hard to toil when toil is almost vain,
In barren ways."

but I shall toil on for I do not want to give up my bees. A majority of our bee-men here have about abandoned the business. The extreme hot and dry weather in summer here is disastrous to the bee-keeper, and if he had to depend upon the business for a living here, it would not do at all. We had a very damaging disease among our bees last spring and summer, and many lost nearly all, and all lost more or less. I think it was bee-diarrhea, but others, as well or better informed than I, say it is not. Last spring opened early, and our bees gathered a large quantity of pollen, bred up rapidly, and later on we had a great deal of cool, misty weather, and all the old stores was consumed, and the bees had to fall back on the pollen. I believe that was the cause of the disease. I would like to have the opinions of some of the bee-masters on the subject, with a remedy.

Hard Year for Bee-Keepers.—C. A. Hallegas, De Kalb Junction, © N. Y., on Nov. 30, 1886, says:

This has been a hard year for bee-keepers throughout this section of the country. I commenced the season with 112 colonies, and afterward had 8 new ones. One was robbed out this fall, so I now have 119, which are in the cellar. I had about 900 pounds of comb honey, and the most of it was of poor quality. I had 50 colonies that did not have enough honey to winter on, and consequently I have had to feed considerable.

Red-Clover Italians.—H. M. Moyer, Hill Church, © Pa., writes:

Joseph Beath, on page 731, wanted to know whether any one has bees that work on the first crop of red clover. My bees (Italians) work, every year, on the first crop of red clover. This is nothing new in this locality. The black bees are not worth keeping here, should one get them as a gift.

Convention Notices.

The eleventh annual meeting of the N. W. Ills. & S. W. Wis. Bee-Keepers' Association will be held in the Grand Army Hall in Rockford, Ills., on the third Tuesday in January, 1887. There will be a two days' session. J. STEWART, Sec.

The next annual meeting of the Nebraska State Bee-Keepers' Association will be held in Lincoln, Nebraska, on Wednesday, Jan. 12, 1887. Location of Hall to be used and Hotel accommodations will be given after further arrangements have been made. H. N. PATTERSON, Sec.

The New York State, the Eastern New York and the New Jersey & Eastern Bee-Keepers' Associations will hold their great united convention at Albany, N. Y., on Jan. 11, 12 and 13, 1887. This convention will be one of the largest, if not the largest, ever held anywhere in this country, and it behooves every bee-keeper to attend. A grand exhibit of apianian fixtures is promised. An unusually brilliant programme will be prepared and announced later. JNO. ASPINWALL.

Honey and Beeswax Market.

The following are our very latest quotations for honey and beeswax:

CHICAGO.

HONEY.—Market is well supplied with all the grades, and the demand is light. Prices are nominal at 11¢@12¢. for white in 1-lb. sections. Fancy white in scant pound sections, 13¢. Very little extracted is being sold, and prices range from 4¢@7¢.

BEESWAX.—22¢. R. A. BURNETT.
Dec. 8. 161 South Water St.

NEW YORK.

HONEY.—In consequence of a large stock of comb honey on this market, fancy prices cannot be maintained. Fancy white honey in paper boxes, or glassed, are in better favor here than the unglazed honey, hence the difference in the price. We quote present prices as follows: Fancy white in 1-lb. paper boxes, or glassed, 13¢; same unglazed, 12¢; and in 2-lb. glassed sections, 10¢@11¢; off grades 1 to 2 cts. per lb. less. Calif. comb, 8¢@10¢; fancy buckwheat 1-lb., 8½¢@9¢, and 2-lb., 7½¢@8¢. Extracted white clover, none in the market. Calif. ext'd, 50-lb. cans, 5¢@6¢; buckwheat, in kegs and barrels, 4¢@5¢.

BEESWAX.—21¢@23¢.

MCCAUL & HILDRETH BROS.,
Dec. 7. 34 Hudson St.

BOSTON.

HONEY.—The demand has improved. We are selling one-pound packages of white clover honey at 14¢@15¢; 2-pounds at 13¢@14¢. Extracted, 6¢@7¢.

BEESWAX.—25 cts. per lb.

Dec. 7. BLAKE & RIPLEY, 57 Chatham Street.

DETROIT.

HONEY.—All kinds of honey are dull and lower. Best white comb honey in 1-lb. sections, 11¢@12¢@13¢. Extracted, 7¢@8¢.

BEESWAX.—23¢.

Nov. 23. M. H. HUNT, Bell Branch, Mich.

CINCINNATI.

HONEY.—There is a lively demand for table honey in square glass jars, and the demand for nice comb honey is very good. Demand from manufacturers is slow for dark grades of extracted honey. The ranging prices for extracted is 9¢@7¢. a lb. Nice comb brings 12¢@15¢. per lb. in a jobbing way.

BEESWAX.—Home demand is good. We pay 20¢@23¢. per lb.

Nov. 10. C. F. MUTH & SON, Freeman & Central Av.

CLEVELAND.

HONEY.—The market is not very active and prices a little lower. Choice 1-lb. sections of best white sell at 13¢@14¢; second grade 1-lb., 10¢@12¢; choice white 1-lb., 11¢@12¢. Extracted, 10¢@12¢.

BEESWAX.—Scarce at 25¢.

Nov. 17. A. C. KENDEL, 115 Ontario Street.

MILWAUKEE.

HONEY.—The market for honey of choice quality is firmer and we are trying to establish a higher range of values. We quote 1-lb. sections of white at 12¢@13¢; 2-lb., 11¢@12¢; dark not wanted. Extracted, white, in half barrels and in kegs, 6¢@7¢; in tin packages, 7¢@7½¢; in barrels, as to quality, 5¢@5½¢.

BEESWAX.—No demand.

Oct. 2. A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO.

HONEY.—The market remains firm for choice qualities, of which we have a large supply on hand. We quote from 3¢@4¢. wholesale, for extracted honey; and 8¢@12¢. for honey in 2-lb. sections, although the latter sells only in a jobbing way at outside prices. Some fine honey in 1-lb. sections sells at 11¢@12¢.

BEESWAX.—Dull at 20¢@22¢. for the best.

Nov. 24. SCHACHT & LEMCKE, 122-124 Davis St.

HONEY.—Trade is quiet. Extra white comb 11¢@12¢; amber, 7¢@10¢. Extracted, white, 4¢@4½¢; amber, 3¢@3½¢.

BEESWAX.—20¢@23¢.

Oct. 18. O. B. SMITH & CO., 423 Front Street.

ST. LOUIS.

HONEY.—Choice comb, 11¢@12¢; latter price is for choice white clover. Strained, in barrels, 3¢@4¢. Extra fancy of bright color and in No. 1 packages, ¼ advance on above prices. Extracted in barrels, 4¢@5¢; in cans 6¢@7¢. Market dull.

BEESWAX.—Dull at 20¢ for prime.

Nov. 17. D. G. TUTT & CO., Commercial St.

KANSAS CITY.

HONEY.—Demand is good for all grades, and receipts have been very large of comb and extracted. Home bee-men have kept out of the market until this month; having glassed every lb. section on both sides they are reducing prices, selling 60 lbs. of glass with 100 lbs. of honey, making our market lower. There crop is about 70,000 pounds. We quote: White clover 1-lb., 12¢@13¢; 2-lb., 11¢@12¢; 1-lb., 13¢@14¢; dark 1-lb., 10¢; 2-lb., 8¢@9¢. California 2-lb., 10¢@11¢. Extracted white clover, 6¢; dark, 4¢@5¢; white sage Calif., 5¢@6¢; amber, 5¢.

BEESWAX.—22¢.

Nov. 20. CLEMONS, CLOON & CO., cor. 4th & Walnut.



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 BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We have several letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now so cheap that no one can afford to do without it. We will present a **Binder** for the BEE JOURNAL to any one sending us three subscriptions—with \$3.00—direct to this office. It will pay any one to devote a few hours, to get subscribers.

To all New Subscribers for 1887 we will present the rest of the numbers for 1886; so the sooner they subscribe the more they will get for their money.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

A New Crate to hold one dozen one-pound sections of honey.—It has a strip of glass on each side, to allow the honey to be seen. It is a light and attractive package. As it holds but one tier of sections, no damage from the drippings from an upper tier can occur. We can furnish the material, ready to nail, for 9 cts. per crate. Glass 1½ cts. per light, extra.

Five Thousand new subscribers to the BEE JOURNAL is what we have made our calculations for; they will come in clubs between now and next spring. Installments are coming every day.

The next annual convention of the Cortland Union Bee-Keepers' Association will be held in Union Hall, at Cortland, N. Y., on Jan. 12, 1887. D. F. SHATTUCK, Sec.

OUR CLUBBING LIST.

We supply the **American Bee Journal** one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

| | Price of both. | Club |
|-----------------------------------|----------------|------|
| The American Bee Journal | 1 00.. | |
| and Gleanings in Bee-Culture..... | 2 00.. | 1 75 |
| Bee-Keepers' Magazine..... | 1 25.. | 1 25 |
| Bee-Keepers' Guide..... | 1 50.. | 1 40 |
| The Apiculturist..... | 2 00.. | 1 70 |
| Canadian Bee Journal..... | 2 00.. | 1 75 |
| Rays of Light..... | 1 50.. | 1 35 |
| The 7 above-named papers | 5 25.. | 4 50 |
| and Cook's Manual..... | 2 25.. | 2 00 |
| Bees and Honey (Newman)..... | 2 00.. | 1 75 |
| Binder for Am. Bee Journal..... | 1 75.. | 1 60 |
| Dzierzon's Bee-Book (cloth)..... | 3 00.. | 2 00 |
| Root's A B C of Bee-Culture..... | 2 25.. | 2 10 |
| Farmer's Account Book..... | 4 00.. | 3 00 |
| Guide and Hand-Book..... | 1 50.. | 1 30 |
| Heddon's book, "Success," .. | 1 50.. | 1 40 |

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. As each separate fiber extends the whole length of the handle as well as the brush, they are almost indestructible. When they become sticky with honey, they can be washed, and when dry, are as good as ever. The low price at which they are sold, enables any bee-keeper to have six or more of them, so as to always have one handy. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

Reader, do you not just now think of one bee-keeper who does not take the Weekly BEE JOURNAL, and who should do so? Perhaps a word or two from you will induce him to do so. Will you not kindly oblige us by getting his subscription to send on with your own renewal for next year? When you do so, please select any 25 cent book in our list, and we will send it to you post-paid, to pay for your trouble. We are aiming to get 5,000 new subscribers for 1887,—will you not assist us to obtain them?

The Report of the Indianapolis Convention is now published in pamphlet form, uniform with that of last year. It will be sent postpaid for 25 cents to any address.

We have also bound it up with last year's, together with the History of the Society: this we will mail for 40 cents. Or if you send us one new subscriber (with one dollar) besides your own renewal, we will present you with a copy by mail.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

The Northeastern Ohio, Northern Pa. and Western New York Bee-Keepers' Association will hold its 8th annual convention in Chapman's Opera House, at Andover, O., on Wednesday and Thursday, Jan. 19 and 20, 1887. First-class hotel accommodations are offered at \$1 per day to those attending the convention. A general invitation is extended to all. M. E. MASON, Sec.

Home Market for Honey.

To create Honey Markets in every village, town and city, wide-awake honey producers should get the Leaflets "Why Eat Honey" (only 50 cents per 100), or else the pamphlets on "Honey as Food and Medicine," and scatter them plentifully, and the result will be a DEMAND for all of their crops at remunerative prices. "Honey as Food and Medicine" are sold at the following prices:

Single copy, 5 cts.; per doz., 40 cts.; per hundred, \$2.50. Five hundred will be sent postpaid for \$10.00; or 1,000 for \$15.00. On orders of 100 or more, we will print, if desired, on the cover-page, "Presented by," etc. (giving the name and address of the bee-keeper who scatters them).

To give away a copy of "Honey as Food and Medicine" to every one who buys a package of honey, will sell almost any quantity of it.

System and Success.

All who intend to be systematic in their work in the apiary, should get a copy of the **Apiary Register** and commence to use it. The prices are reduced, as follows:

For 50 colonies (120 pages).....\$1 00
 " 100 colonies (220 pages)..... 1 25
 " 200 colonies (420 pages)..... 1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

Dr. Miller's Book, "A Year Among the Bees," and the BEE JOURNAL for one year, we will club for \$1.50.

The Convention History of America with a full report of the proceedings of the Detroit and Indianapolis conventions, and the AMERICAN BEE JOURNAL for one year, will be clubbed for \$1.25.

We would call **Special Attention** to the property advertised by L. C. Root, on page 733, in the issue of Nov. 17th. It is a choice property, and offers a rare chance for some person desiring to keep Bees under the most favorable circumstances. For particulars, address L. C. Root, Mohawk, N. Y.

Advertisements.

WANTED.—Some one with or without experience, but with some ready cash, to join me in rearing Bees and producing Honey, and to take a half interest in 100, 150, 200, or 250 colonies of bees. My honey crop the past season was 19,000 pounds. Correspondence desired.

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